



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,320	09/30/2003	Nobuaki Miyake	027260-676	2264

21839 7590 04/11/2006

BUCHANAN INGERSOLL PC
(INCLUDING BURNS, DOANE, SWECKER & MATHIS)
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

EXAMINER

CAZAN, LIVIUS RADU

ART UNIT	PAPER NUMBER
----------	--------------

3729

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/673,320	MIYAKE ET AL.	
	Examiner	Art Unit	
	Livius R. Cazan	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/111,701.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/30/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-4, drawn to a method of manufacturing a stator.

Group II, claim(s) 5, drawn to a method of manufacturing a stacked stator core.

Group III, claim(s) 6, drawn to an alternative method of manufacturing a stacked stator core.

2. The inventions listed as Groups I, II, and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Group I has a special technical feature of winding a wire around a straight-stacked stator core, said feature not being present in groups II and III.

Group II has a special technical feature of a first divided portion at one place between yoke members and a bent portion at the other place therebetween, said feature not being present in Groups I and III.

Group III has a special technical feature of a third divided portion, said feature not being present in Groups I and II.

3. During a telephone conversation with Ellen Marcie Emas on 03/16/2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-4. Affirmation of this election must be made by applicant in replying to this

Art Unit: 3729

Office action. Claims 5 and 6 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the stacked stator core" in line 2. There is insufficient antecedent basis for this limitation in the claim.

The phrase "winding a wire around the straight stacked stator core" in claim 1 is vague/indefinite because, as claimed, it appears the wire is wound around the entire core, whereas one of skill in the art would expect the wire to be wound around stator core teeth. It is therefore unclear as to what part of the core receives the wire. For examination purposes, the phrase will be interpreted as to mean the wire is wound around teeth of the core.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 and 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. (US5859486) in view of Widstrand (US3783318).

a. Regarding claims 1 and 3, Nakahara et al. disclose:

- forming a stacked stator (20 in Fig. 6) core by blanking a magnetic material (col. 20, Ins. 47-50);
- unfolding the stacked stator core straight (Fig. 6 shows a stacked stator core that is unfolded straight);
- subjecting the straight stacked stator core to a prescribed treatment (insulation processing by coating; see col. 20, Ins. 50-56);
- winding a wire around the straight stacked stator core (coils are formed on the magnetic pole teeth; see Fig. 7; see col. 20, Ins. 53-56) subjected to the prescribed treatment;
- winding up the straight wire-wound stacked stator core to restore the core to its original arrangement in a ring (col. 20, Ins. 57-59; see finished stator in Fig. 1) such that the wire-wound side faces the inside of the core.

Note that Nakahara et al. do not disclose unfolding a folded stator core. Instead the core in its unfolded state is discussed. However, the core disclosed by Nakahara is perfectly capable of being folded, and then later unfolded.

Nakahara et al. do not disclose blanking the magnetic material using a progressive die.

Widstrand teaches forming stator core laminations by punching conventional lamination stock (i.e. magnetic material) using a progressive die (col. 1, Ins. 35-45)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to blank the magnetic material of Nakahara et al. using a progressive die in order to not require multiple different dies.

b. Regarding claim 4, Nakahara et al. disclose the same invention as the applicant, except for winding the stator core into a ring such that the wire-wound side faces the outside of the core. Stators having teeth pointing radially outwardly are known in the art, and Nakahara shows such a stator in Fig. 25.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to form stator cores that when wound into a ring have the wire-wound side facing the outside of the core since this type of rotor is known, and Applicant's method can be applied equally well to stators having the wire winding on the outside of the stator core as to stators having the wire winding on the inside of the stator core. Further, the Applicant has not stated that applying the method of the present specification to cores with outside windings provides an advantage over applying the method to

cores with inside windings, which is further evidenced by the fact that the Applicant is claiming both embodiments (claims 3 and 4).

Therefore, it would have been prima facie obvious to apply the method of Nakahara et al. to cores having outside windings to obtain the invention as specified in claim 4 because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of Nakahara et al.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahara et al. in view of Nakamura et al. (US5451306).

Nakahara et al. disclose the same invention as the applicant, except for coating the stator core with by using electro-coating.

Nakamura et al. teach applying a thin insulating film to a stator core by electrodeposition (same as electrocoating) in order to cover burrs on the core surface (see col. 7, Ins. 35-45 and col. 8, Ins. 25-45).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to effect the coating step of Nakahara et al. by electrodeposition, as taught by Nakamura et al., in order to provide an insulating film which covers rough burrs on the surface of the core.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Livius R. Cazan whose telephone number is (571) 272-8032. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571)272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LRC 04/06/2006



PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700